CLAIMS

What is claimed is:

1.   A wireless communication network comprising:

a packet control function;

a plurality of access network controllers connected to the packet control function

for communicating with an access terminal engaged in a communication

session;

a session controller having memory for storing session information used by one

or more of the access network controllers to communicatively couple the

access terminal to the packet control function during the communication

session; and

wherein, in response to transfer of the access terminal from a first one of the

access network controllers to a second one of the access network

controllers, the session controller sends the session information stored in

the session controller to the second access network controller.

2.   The wireless communication network of claim 1, wherein the transfer is a

dormant handoff.

3.   The wireless communication network of claim 1, wherein the second access

network controller queries the session controller for session information associated with

the access terminal responsive to the transfer of the access terminal from the first

access network controller to the second access network controller.

4.   The wireless communication network of claim 3, wherein the session controller

provides the session information associated with the access terminal to the second

access network controller responsive to receiving a query from the second access

network controller.

5.   The wireless communication network of claim 1, wherein the first access network

controller removes session information for the access terminal stored in the first access

network controller in response to the transfer of the access terminal from the first access

network controller to the second access network controller.

6.   The wireless communication network of claim 4, wherein the first access network

controller removes session information for the access terminal in response to an

cancellation request message from the session controller.

7.   The wireless communication network of claim 1, wherein the session controller

further stores in memory routing information indicating which of the plurality of access

network controllers is currently identified with the access terminal by the session

controller.

8.   The wireless communication network of claim 7, wherein the session controller

updates the routing information in response to the transfer of the access terminal from

the first access network controller to the second access network controller.

9.   The wireless communication network of claim 8, wherein the routing information

comprises a routing tag for each one of the plurality of access network controllers,

wherein the session controller sets said routing tag to indicate that a corresponding

access network controller is currently identified with the access terminal and clears said

routing tag to indicate that a corresponding access network controller is not currently identified with the access terminal.

10.   The wireless communication network of claim 9, wherein the session controller updates the routing information by setting the routing tag corresponding to the second access network controller.

11.   The wireless communication network of claim 9, wherein the session controller updates the routing information by clearing the routing tag corresponding to the first access network controller.

12.   The wireless communication network of claim 11, wherein the session controller sends a cancellation request message to the first access network controller responsive to the transfer of the access terminal from the first access network controller to the second access network controller, and wherein the first access network controller removes session information associated with the access terminal stored in the first access network controller in response to the cancellation request message from the session controller.

13.   The wireless communication network of claim 7, wherein the session controller updates the routing information responsive to a session cancellation message from an access network controller.

14.   The wireless communication network of claim 7, wherein the session controller sends a session update message to one or more of the access network controllers if the

session controller detects that the access terminal is not currently identified with any one of the plurality of access network controllers.

15. The wireless communication network of claim 14, wherein the access network controllers page the access terminal in response to receipt of the session update message by the access network controllers.

16. The wireless communication network of claim 15, wherein the access network controllers send a session cancellation message to the session controller if the access terminal does not respond to the page within a predetermined time, and wherein the session controller updates the routing information responsive to the session cancellation message.

17 The wireless communication network of claim 7, wherein the packet control function maintains routing information in memory indicating which access network controller is currently identified with the access terminal by the packet control function.

18. The wireless communication network of claim 17, wherein the packet control function updates the routing information when the packet control function receives a connection request associated with the access terminal from one of said plurality of access network controllers.

19. The wireless communication network of claim 17, wherein the packet control function sends a service request to the access network controller currently identified with the access terminal by the packet control function in response to receiving data to be delivered to the access terminal.

20.   The wireless communication network of claim 19, wherein the access network controller receiving the service request from the packet control function initiates redirection of the service request received from the packet control function if the access network controller does not have session information associated with the access terminal.

21.   The wireless communication network of claim 20, wherein redirecting the service request comprises:

sending a notification from the access network controller receiving the service request to the session controller; and

sending a connection setup request from the session controller to the access network controller currently identified with the access terminal by the session controller.

22.   The wireless communication network of claim 21, wherein the access network controllers are operative to send a connection request to the packet control function to establish a connection with said packet control function responsive to receiving a connection setup request from the session controller.

23.   The wireless communication network of claim 1, wherein the network comprises a 1xEVDO wireless communication network.

24.   The wireless communication network of claim 1, wherein the session controller assigns a Universal Access Terminal Identifier to said access terminal.

25.   A session controller for use in a wireless communication network including a
plurality of access network controllers, the session controller comprising:

memory to store session information associated with an access terminal

engaged in a communication session; and

a processor programmed to provide the session information to the access

network controllers responsive to session information requests from the

access network controllers.

26.   The session controller of claim 25, wherein the access network controllers
generate a session information request responsive to the transfer of the access terminal
from a first access network controller to a second access network controller.

27.   The session controller of claim 26, wherein said session controller sends a
cancellation request message to the first access network controller to initiate removal of
session information associated with the access terminal stored at the first access
network controller.

28.   The session controller of claim 25, wherein the session controller further stores in
memory routing information indicating which of the plurality of access network controllers
is currently identified with access terminal.

29.   The session controller of claim 28, wherein the session controller updates the
routing information in response to the transfer of the access terminal from the first
access network controller to the second access network controller.

30. The session controller of claim 29, wherein the routing information comprises a routing tag for each one of the plurality of access network controllers, wherein the session controller sets said routing tag to indicate that a corresponding access network controller is currently identified with the access terminal and clears said routing tag to indicate that a corresponding access network controller is not currently identified with the access terminal.

31. The session controller of claim 30, wherein the session controller updates the routing information by setting the routing tag corresponding to the second access network controller.

32. The session controller of claim 31, wherein the session controller updates the routing information by clearing the routing tag corresponding to the first access network controller.

33. The session controller of claim 28, wherein the session controller updates the routing information responsive to a session cancellation message from an access network controller.

34. The session controller of claim 28, wherein the session controller sends a session update message to one or more of the access network controllers if the session controller detects that the access terminal is not currently identified with any one of the plurality of access network controllers.

35.   The session controller of claim 28, wherein the session controller is programmed to redirect service requests received by a first access network controller from a packet control function to a second access network controller.

36.   The session controller of claim 35, wherein redirecting service requests sent by the packet control function to a first access network controller comprises:

receiving a service request notification from said first access network controller; and

sending a connection setup request to the second access network controller, which is currently identified with the access terminal by the session controller.

37.   The session controller of claim 25, wherein the session information comprises data connection information associated with a data connection between the access terminal and a packet control function in the wireless communication network.

38.   The session controller of claim 39, wherein the data connection information comprises IP address information and network identifier information associated with the access terminal.

39.   The session controller of claim 39, wherein the session information stored by the session controller conforms to the IS-856 HDR network standard.

40.   The session controller of claim 25, wherein the session controller assigns a Universal Access Terminal Identifier to said access terminal.

41.   A method of mobility management in a wireless communication having a plurality

of access network controllers and a packet control function communicatively connected

to the plurality of access network controllers, the method comprising:

storing session information associated with an access terminal in a session

controller that is communicatively connected to the plurality of access

network controllers; and

receiving a session information request by the session controller from one of the

access network controllers; and

sending the session information stored in the session controller to the requesting

access network controller.

42.   The method of claim 41, further comprising generating the session information

request at a second access network controller responsive to the transfer of the access

terminal from a first access network controller to the second access network controller,

and sending the session information request from the second access network controller

to the session controller.

43.   The method of claim 42, further comprising sending a cancellation request from

the session controller to the first access network controller to initiate removal of the

session information stored in the first access network controller.

44.   The method of claim 43, further comprising removing session information

associated with the access terminal stored in the first access network controller in

response to the cancellation request message.

45.   The method of claim 41, further comprising storing routing information in the session controller indicating which of the plurality of access network controllers is currently identified with the access terminal by the session controller.

46.   The method of claim 45, further comprising updating the routing information in response to a transfer of the access terminal from a first access network controller to a second access network controller.

47.   The method of claim 46, wherein the routing information comprises a routing tag for each one of the plurality of access network controllers, wherein the session controller sets the routing tag to indicate that a corresponding access network controller is currently identified with the access terminal and clears the routing tag to indicate that the corresponding access network controller is not identified with the access terminal.

48.   The method of claim 47, wherein updating the routing information comprises setting the routing tag for a first access network controller.

49.   The method of claim 48, wherein updating the routing information further comprises clearing the routing tag for a second access network controller.

50.   The method of claim 45, further comprising sending a session cancellation message from an access network controller currently identified with the access terminal to the session controller, and updating the routing information stored in the session controller in response to the session cancellation message.

51.   The method of claim 41, further comprising sending a session update message

from the session controller to one or more of the access network controllers when the

session controller detects that the access terminal is not currently identified with any one

of the plurality of access network controllers.

52.   The method of claim 51, further comprising paging the access terminal by the

one or more access network controllers in response to the session update message.

53.   The method of claim 52, further comprising sending a session cancellation

message from an access network controller to the session controller if the access

network controller does not receive a response from the access terminal to a paging

message sent by the access network controller.

54.   The method of claim 41, further comprising redirecting a service request received

by a first access network controller from a packet control function to a second access

network controller.

55.   The method of claim 54, wherein redirecting a service request comprises:

sending a service request notification from the first access network controller to

the session controller; and

sending a connection setup request from the session controller to the second

access network controller currently, which is currently identified with the

access terminal by the session controller.

56.   The method of claim 41, further comprising maintaining routing information at the packet control function indicating which of the access network controllers is currently identified with the access terminal by the packet control function.

57.   The method of claim 56, further comprising updating the routing information when the packet control function receives a connection identified with the access terminal from an access network controller.

58.   The method of claim 41, wherein the network comprises a 1xEVDO network.

59.   The method of claim 41, further comprising assigning a Universal Access Terminal Identifier to access terminal by the session controller.

60.   A method of reestablishing a data connection between a packet control function and a dormant access terminal that has moved from a first access network controller to a second access network controller, said method comprising:

sending a service request from the packet control function to the first access network controller indicated by routing information stored in the packet control function as being currently identified with said access terminal;

sending a service request notification from the first access network controller to a session controller;

sending a connection setup request from said session controller to said second access network controller indicated by routing information stored in said session controller as being currently identified with said access terminal; and

sending a connection request from said second access network controller to said packet control function.

61.   The method of claim 60 wherein said packet control function updates its routing information to indicate that said second access network controller is currently identified with the access terminal by the packet control function in response to receiving the connection request from the second access network controller.

62.   The method of claim 60 further comprising storing session information associated with the dormant access terminal in the session controller.

63.   The method of claim 62 further comprising sending the session information stored in the session controller to the second access network controller

responsive to the movement of the access terminal from the first access network controller to the second access network controller.

64.   The method of claim 63 wherein the second access network controller sends a session information request to the session controller in response to the movement of the access terminal from the first access network controller to the second access network controller, and wherein sending the session information stored in the session controller to the second access network controller includes sending the session information stored in the session controller to the second access network controller responsive to receiving the session information request by the session controller.

65.   The method of claim 64 further comprising using the session information at the second access network controller to reestablish a data connection between the access terminal and the packet control function.